

From: [Randolpj Femmer](#)
To: [ED, State Board of Ed](#)
Subject: [External] Give Environment & Ecology Attention in the Classroom!
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Executive Director Karen Molchanow,

As a concerned citizen, I want to thank you for your role in revising the Pennsylvania Science, Technology, and Environment and Ecology standards. I am alarmed at the lack of certain materials in the proposed Integrated Standards for Science, Environment and Ecology in grades 6-12 and how it may leave Pennsylvania students at a disadvantage in the future.

The standards as proposed leave out critical topics, namely Environment, Ecology, and Agriculture, as part of its performance expectations. For years, teachers have been required to teach these subjects through clear requisites in past independent state standards. To ensure they continue to receive the attention they need and deserve, they must be included in the proposed integrated standards for secondary level education as a separate, fifth domain. Watershed and wetlands, agriculture and society, and integrated pest management should also be covered through individual performance expectations.

Climate and environmental literacy is and will be an essential skill to prepare Pennsylvania students to actively participate in a green economy and remain competitive in the workforce as it continues to evolve. Without them, there is a strong chance they will be left behind.

I ask you again to please include Environment, Ecology, and Agriculture as a fifth, separate domain in the proposed standards to ensure they receive the attention they need and deserve and ensure Pennsylvania students have the necessary skillset to succeed in the workforce.

Below are a couple of sample links OERs with sample OCW ppts and pdfs addressing Biospheric Literacy 101 - (What EVERY citizen should KNOW about our planet.) Two quick examples? (1) Earth's atmosphere, oceans, soils and seas actually exist as razor-thin surface films which both house (and comprise) the most premier planetary life-support machinery so far known to exist anywhere in the universe, and (2) Exactly How LARGE is a BILLION? Can be powerfully conveyed in ten minutes (we provide the ppt, math, or slides as freely-downloadable OCW resources). Hint: At 100 items per day, five days per week, 52 weeks per year, the answer involves 38,461 years so if you began such a project 20,000 years ago and worked five days per week 52 weeks per year from then until now, you would still have to continue working on your project for 18,426 additional years into the future in order to complete your project. Since our government spending, national debt, and worldwide population growth every twelve years each involve a BILLION, it might be helpful if students,

voters, journalists, government officials, etc. etc. etc. LEARN the example that we provide in our OCW Biospheric Literacy 101 materials.

Please email us or call us for links to our free OCW resources..

golddoublebloons@hotmail.com

Biology, Marine Biology, Whole-systems Ecology

Editor and Senior Director, Biospheric Literacy 101

Thank you for your work setting up the Commonwealth with a bright and green future.

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